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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,063	06/24/2003	Hiromitsu Fujimoto	8053-1014	1171
466	7590	09/30/2004		
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			EXAMINER SAN MARTIN, EDGARDO	
			ART UNIT 2837	PAPER NUMBER

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

10/602,063

Applicant(s)

FUJIMOTO ET AL.

Examiner

Edgardo San Martin

Art Unit

2837

AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-14 is/are allowed.
- 6) ☒ Claim(s) 1-6, 15-19 and 24-27 is/are rejected.
- 7) ☒ Claim(s) 7-10 and 20-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/24/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "42" has been used to designate both "winding" and "amplifier" in figures 1, 3 and 15. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
- On page 4, line 8 the occurrence of "b3" should read - - 13 - -;
 - On page 4, line 17 "14" should read - - 13 - -;
 - On page 7, line 16 "33" should read - - 31 - -;
 - On page 7, line 18 "75" should read - - 74 - -.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 24 – 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 recites the limitation "detecting a sixth inductance" in line 22, this recitation is vague. There is no recitation of detecting first through fifth inductance.

Claim 24 recites the limitation "in accordance with said first, second, third, fourth, fifth" in lines 26 and "stable stop point of one of said first, second, third, fourth, fifth" in line 28. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 – 6 and 15 - 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaneda et al. (US 5,554,916).

With respect to claims 1 and 6, Kaneda et al. teach a method for detecting an angle of a stationary rotor of a sensorless brushless DC motor comprising a stator

including a plurality of windings, the rotor including permanent magnet poles, comprising steps of detecting inductances of the windings while the rotor is stationary, and detecting the angle of the stationary rotor in accordance with the detected inductances (Figs1 – 4; Col.3, Line 39 – Col.5, Line 39).

With respect to claim 2, Kaneda et al. teach wherein the stationary rotor angle detecting step detects the angle of the stationary rotor in accordance with a respective one of the windings having a minimum value of the detected inductances (Col.4, Lines 33 – 41).

With respect to claim 3, Kaneda et al. teach wherein the inductance detecting step comprises the steps of supplying currents to the windings and detecting transient phenomena of the currents, thus detecting the inductances in accordance with the transient phenomena of the currents (Col.4, Lines 7 – 41).

With respect to claims 4 and 5, Kaneda et al. teach the claimed subject matter described in the claims (Col.4, Lines 7 – 41).

With respect to claims 15 – 19, Kaneda et al. teach the limitations discussed in a previous rejection, and further teach supplying first and second start driving currents (Figs.2 and 3; Col.4, Line 5 – Col.5, Line 39).

Allowable Subject Matter

5. Claims 7 – 10 and 20 – 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 24 – 27 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

7. Claim 11 – 14 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

- The references of the Prior Art of record fail to teach, or suggest any obvious combination of the limitations discussed above, and further comprising the limitations of a first comparator, connected to the resistor, for comparing each of the detection voltages with a first reference voltage to generate a first timing signal when each of the detection voltages becomes higher than the first reference voltage, and a second comparator connected to the resistor, for comparing each of the detection voltages with a second reference voltage higher than the first reference voltage to generate a second timing signal when each of the detection voltages becomes higher than the second reference voltage, the inductances being defined by time periods each beginning at a time when the first comparator generates the first timing signal and ending at a time when the second comparator generates the second timing signal.

Conclusion

8. The attached hereto PTO Form 892 lists prior art made of record that the Examiner considered it pertinent to applicant's disclosure.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edgardo San Martin whose telephone number is (571) 272-2074. The examiner can normally be reached on 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Edgardo San Martín
Patent Examiner
Art Unit 2837
Class 318
September 27, 2004